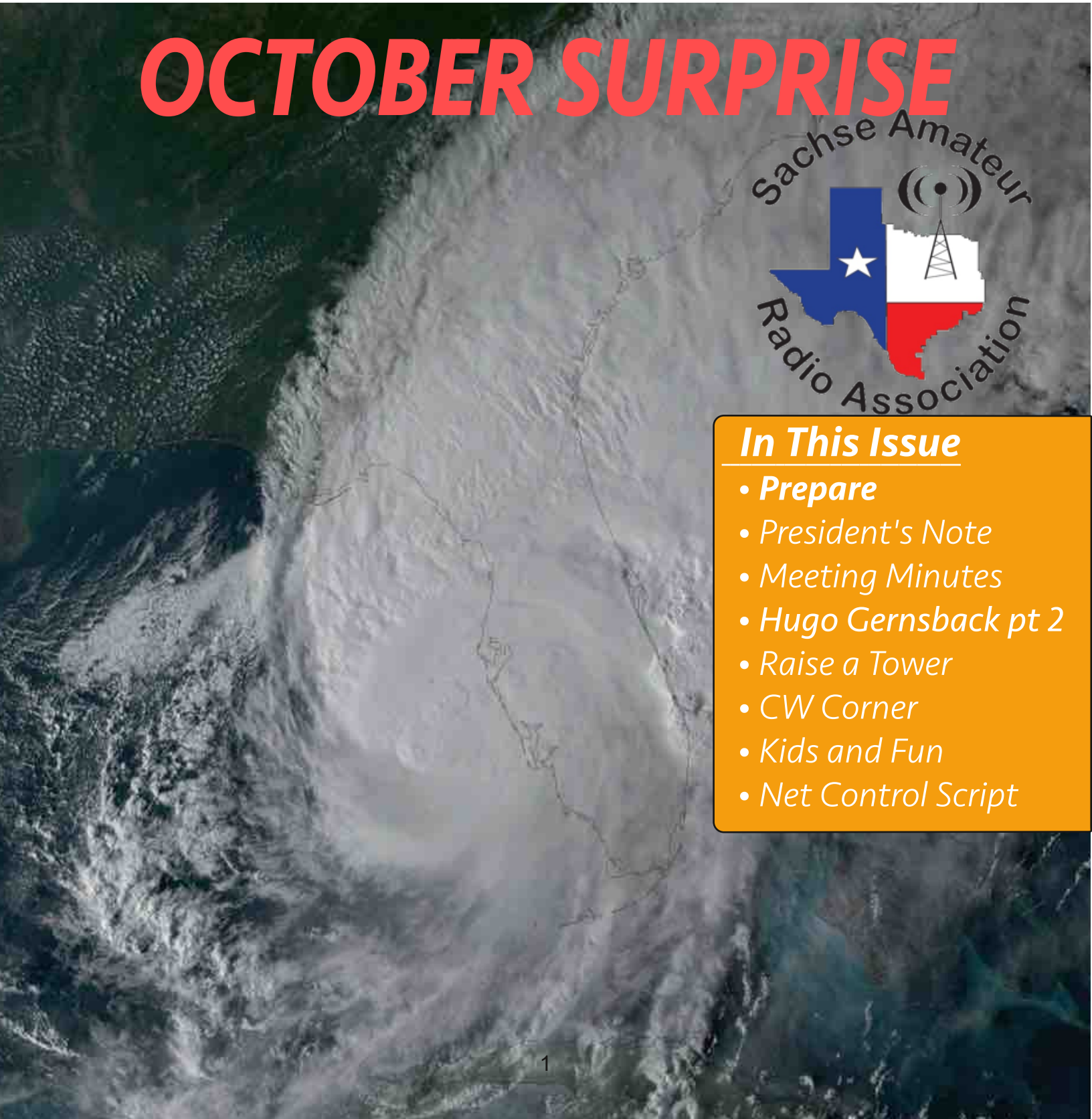
Now View As 2 Pages!

SkyWaves

November Sachse Amateur Radio Association W5SRA 2024



OCTOBER SURPRISE

Sachse Amateur Radio Association

In This Issue

- **Prepare**
- President's Note
- Meeting Minutes
- Hugo Gernsback pt 2
- Raise a Tower
- CW Corner
- Kids and Fun
- Net Control Script

1. AMATEUR RADIO FUN 2. EMERGENCY COMMS

SARA Club Officers for 2024-2025

Current officers for the Sachse Amateur Radio Association, per the election held at the September 2024 General Meeting.

President	Andy Barnes	W5KZJ
Vice President	Jeff Feldman	KI5DDX
Secretary	Kathy Wingo	KI5LEY
Treasurer	Ev Wingo	KI5LEX
Public Information Officer	Lisa Barnes	KG5OBK
Director at Large	Jim Szot	N5JS
Newsletter Editor	Lonnie Webb	KG5WHQ

JOIN THE ARRL

As an ARRL Affiliated Club, SARA receives a commission for every new ARRL membership and renewal we submit to ARRL Headquarters and get to retain a portion of the dues for each regular membership submitted.

Clubs retain $15 for each new membership OR lapsed membership (of two years or more). A NEW MEMBER is defined as any individual who has never been a member of ARRL or any individual who has not retained a membership for two or more calendar years prior to the application submission.

Clubs retain $5 for each renewal. A RENEWING MEMBER can renew at anytime, even before their current membership term expires.

You can download the ARRL Affiliated Club Membership form here.

Once downloaded, complete the form and get it to the club Treasurer along with a check made out to 'Sachse Amateur Radio Association' and we will submit your ARRL membership application/renewal to ARRL Headquarters. (NOTE: ARRL Headquarters is working on getting an on-line version working so that you can go directly to them and the ARRL will send the club a check for any new or renewed memberships.)

This month's links can all be found here:

`https://bit.ly/m/sachseradio`

A.I.-FREE ZONE
THIS IS AN AI-FREE ZONE. WHILE A.I. MIGHT CORRECT OUR GRAMMAR, ALL CONTENT USED IN THIS NEWSLETTER IS PRODUCED BY HUMAN HANDS. DUE TO LICENSING CONCERNS THAT A.I. VIOLATES, WE URGE CONTRIBUTORS TO RESPECT THIS POLICY.

UPCOMING EVENTS

NEXT MEETING
Thursday, November 14, 7:30p
North Pointe Church of Christ
7030 TX-78
Sachse, TX 75048
USA

NEXT INFO NET
Every Monday - "SARA Weekly Information Net" 7:00pm
W5SRA Repeater

SARA Club Repeater
W5SRA
440.350 MHz
Offset +5.00 Mhz
PL tone: 110.9

Future SARA General Meeting Topics
October 10th - APRS Demo and Club Activity Planning

Murphy CERT now on W5SRA Repeater
Every third Wednesday the Murphy CERT net be on the club repeater. The net will begin at 19:00 central time. Listen in to our growing ham and preparedness community.

Additional events can be found on page 18.ovember

Laurel Testing License Grants

Laurel testing for October was held October 19, 2024 at the North Pointe Church of Christ in Sachse.

The next opportunity for license testing, and a new membership to SARA, will happen November 16, 2024.

QSO Breakfast

Meet us every Saturday at 7:30am for breakfest at
Ballard Street Cafe, 112 N. Ballard in downtown Wylie.

People begin showing up around 7:00am with most showing up by 7:30am.

Sunday Public Service Net

November 10 and 27

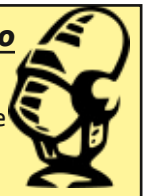
W5SRA Repeater
8:00 PM
Frequency: 440.350 MHz
Shift: +5MHz
PL tone: 110.9 (Tx & Rx)

Upcoming W5SRA Laurel Testing

November 16—9:00 to 11:00am
7030 S. State Hwy 78, Sachse, TX 75048

Contact:
W5JWS (John) 214.799.9927
w5jws@arrl.net
for additional details and to verify testing session is still open.

Where's Mic-o



Hidden somewhere in the newsletter is a microphone like the one to the right.

Find this image in this SkyWaves and be entered in a drawing for free ham stuff reviewed in this or next month's SkyWaves.

Additionally, you can write a letter to the editor or submit an item to SkyWaves to be in the drawing!

Next Board Meeting:

November 28, 2024
via Google Meet
(requires Google acct)

https://bit.ly/3AxxSPJ

Find us on
Facebook!

Did you know you can keep up with events and conversations between newsletters by joining the Sachse Amateur Radio Association on Facebook?

https://bit.ly/sara-facebook-group

NEWSLETTER ARTICLES

Working on a project that you think the club members would be interested in? Read a good HAM related article somewhere? Send articles to SARA Newsletter Editor:
newslettereditor@sachseradio.org

ACTIVITIES COMMITTEE

SARA vice-president Jeff Feldman KI5DDX heads up the SARA Activities Committee. Anyone who is willing to help or has ideas may email Jeff:
vicepresident@sachseradio.org

SARA BRANDED GEAR

We now have two suppliers for SARA gear. Both of these companies have our logo on file.

HamThreads deliver custom hats, shirts, jackets and vests with SARA's logo. They can do single items. HamThreads is in Saginaw.
https://www.hamthreads.com

SARA NAME BADGES

If you don't have a SARA name badge, turn to namebadge.com. Please go to:
https://namebadge.com/sachse

Letters

Thank you for reading SkyWaves!

Subject:Re: Monthly SARA Skywaves Newsletter
Absolutely awesome newsletter this month, Loved it!
—Harold Liles - KJ5FSI

Subject:Mico
Page 15, Just before "A Matter of Money"
—John W Smyder - W5JWS
You are leading the pack!
—ed

Subject:Re: Monthly SARA Skywaves Newsletter
Lonnie,
I love the look of the newsletter! That was a funny meme of American Chopper and my kind of humor.
Good job!
—Mark Mantooth - KI5CYA
Mark was a newsletter editor prior to Ev, following Steve.

Subject:Re: Monthly SARA Skywaves Newsletter
Nice job! I love it.
Steve Harbin - W5SOT
Steve was our newsletter editor who brought us the last major refresh.

Subject:Maybe a new column???
Hey Lonnie.

I found a good deal on an Arduino setup + a sensor pack on Amazon last week. I bought the two, and today started "My Arduino Journey". Once I can do more than "Hello World!" I plan on getting the book about Arduino projects for Ham Radio, and maybe some others not necessarily Ham related.

I thought I could start a monthly newsletter column for "What I Learned in Ardu School" last month. I'd keep it to about a half page, and as I learn more, include some of my own code examples.

Lemme know what you think, along with what your deadline would be, if you are interested. BTW – you can name the column if you like.
—Ev Wingo - KI5LEX
(Fyi, Ev was my hard working predecessor as newsletter editor of SkyWaves)

Sounds interesting! What can you do by the last week of October? That would give me time to assemble. Make photos up close to anything you do with your hands. And videos as you go. Let me know if you need any help with this idea!

If it comes together well I'll put you and the video on my YouTube channel.
—ed

Subject: Re: Skywaves - October 2024; with a Ham Halloween story
Ok, so I had to read "The Ghost in the Noise". Good story. And you must be a glutton for punishment taking over a Ham Radio newsletter. Nice looking newsletter though. I'll check out future issues. Love Texas, my the way. In a previous life I spent a lot of time there chasing sports television.
73,
—AA4HG, Scott from Woodstock ,GA
Thank you, Scott! Getting feedback makes it all worthwhile!
—ed

Subject: Re: Skywaves - October 2024; with a Ham Halloween story

Excellent well organized little publication... and comics to boot. :D
—73,KI5HSE
Thank you! I'm glad you liked it!
—ed

Subject: SARC Newsletter
Dear Editor,
I just wanted to let you know I really enjoyed reading your latest edition of Skywaves. I especially enjoyed reading "Ghost In The Noise." I will definitely be keeping my eyes out for next month's edition.

Catch you on the Richardson .12 or the Sachse .35 repeater some time!
—73,Daniel KJ5BMY
Look forward to catching you on the air. Thank you!
—ed

One little note here on our distribution. 162 people received the newsletter and an additional 1600 have found us through QRZ. Radio is active. Upward to 4000 have hit the *Ghost in the Noise* audio on QRZ and 674 on the Radio Engine YouTube channel.

So, with that said, go grab another ham and have fun. And keep learning!
—editor
newslettereditor@sachseradio.org

President's Message

Hello November!

I hope this letter finds everyone well!

Our next meeting will be November 14th. I encourage everyone to attend as we welcome **William Newman, WL9N** – Texas State Races – District Radio Officer (DRO) 04 – DFW. He will be discussing some background in Emergency Communication, differences between ARES and RACES entities, how resources are requested during a disaster or emergency scenarios through the State of Texas, the State Operation Center, the role that Texas State RACES fills in the big picture and how one might seek membership into Texas State RACES. We will also be voting on our annual budget for 2025.

With the holiday season upon us we are moving some of our meetings around. First the November Board of Directors meeting will be moved to the 21st at 7:00 PM. As always all are welcome to attend. A link can be found in the club calendar or later in this publication. Our regular club meeting for December will be replaced with the SARA's Christmas Party December 7th at 6:30 PM at Napoli's Italian Restaurant, 701 State Hwy 78, Wylie. There will be door prize drawings for club members. Hope to see everyone there. We will also be moving the December Board of Directors meeting to December 7th at 7:00 PM. Again, all are welcome.

Looking forward to January, there have been some requests for information regarding making contacts with satellite repeaters. Our own **Matt, KI5PGL** will be sharing his experience in making contacts using satellites.

Just a reminder SARA will be sponsoring a Parks on the Air (POTA) activation in a couple of days, November 2nd at Spring Creek Forest Reserve, 1770 Holford Rd, Garland. We will be operating under the W5SRA call sign. I will have my radio setup for anyone to use. If your license class is technician class or have never been on the HF bands this is a perfect opportunity for you to experience the world of HF.

During the last couple of months participation in club activities has fallen off. A club is only as good and active as it's members. That equates to participation! The club needs every member to be engaged in it and attend our monthly club meetings and events. Bring your ideas to our monthly club meetings and share them during the Other Business section of the agenda.

I hope to see everyone on the 2nd and 14th !

73,

Andy Barnes, W5KZJ◆

Contents

01 | **Cover Story**

02 | **Upcoming Events**

03 | **At-a-glance**

04 | **Letters**

05 | **President's Note**
Andy Barnes

06 | **Meeting Minutes**
Kathy Wingo

08 | **Board Meeting Minutes**
Kathy Wingo

12 | **Press Releases**

13 | **APRS with the radio you already have**
Lonnie Webb

14 | **Lite Tech Corner**
Bob Devance

14 | **Read The Part 97 Rules**

14 | **Learning Arduino**
Ev Wingo

16 | **CW Corner**
Baluns II
Jim Eatman

18 | **Prepare**

20 | **Archive.org Gets Hacked**
Jeff Feldman

20 | **A Wylie Tower-Raising**

22 | **Hugo Gernsback Part Two**

23 | **New Here**
Getting on the Club Repeater

24 | **Club Calendar**

26 | **For Everyone**
Kids and Fun

28 | **Action Photos**

30 | **Net Control Script**

Meeting Minutes

Sachse Amateur Radio Association
General Meeting Minutes
October 10, 2024

Start time: 7:30 p.m.

Location: North Pointe Church

Facilitator: President **Andy Barnes W5KZJ**

Everyone stood and joined in to say The Pledge of Allegiance.

Welcome to members and guests as they introduced themselves with names and call signs.
Attendees:

Andy Barnes W5KZJ	Ev Wingo KI5LEX	Kathy Wingo KI5LEY
Lisa Barnes KG5OBK	Jeff Feldman KI5DDX	Lonnie Webb KG5WHQ
Tony Fiorda WB8ZWI		

President's Report – Andy Barnes W5KZJ
The next Board Meeting will be held on Thursday October 24th at 7 p.m. via Google Meet. There is a link in SARA Skywaves, all are welcome. The next General Meeting will be on Thursday November 14th at 7:30 p.m. at North Point Church.

Due to the upcoming holidays the November's Board Meeting will be Thursday November 21st at 7 p.m. via Google Meet.

December's Board Meeting will be Thursday December 12th at 7 p.m. via Google Meet.

Upcoming General Meeting Subject Plans:

- November – **William Newman, WL9N**, Texas State RACES – District Radio Officer (DRO) 04 DFW
- December – Christmas Dinner will be December 7th at Napoli's Restaurant, 701 N. State Hwy 78, Wylie, TX at 6:00 p.m.

Future General Meeting Topics:

- Ideas for upcoming meetings
- Please help with subject matter

POTA Activation will be held Saturday, November 2nd 9 a.m. to 12:00 at the Spring Creek Forest Preserve, 1770 Holford Road, Garland. Anyone interested in trying their hand at HF communication is welcome. We will use the club call for this activation.

Meeting Minutes – Kathy Wingo KI5LEY
The minutes for September 12, 2024, meeting was in the newsletter and on the website.

MOTION: Lonnie Webb KG5WHQ made a Motion to approve the September 12, 2024, meeting minutes. Tony Fiorda WB8ZWI seconded the motion. Motion carried unanimously.

Treasurer Report – Ev Wingo KI5LEX
September 2024 Treasurer Report was presented to the members.
A copy of the financial report is available to members upon request.

MOTION: Kathy Wingo KI5LEY made a Motion to approve the September financial report. **Lisa Barnes KG5OBK** seconded the motion. Motion carried unanimously.

Public Information Officer's Report - Lisa Barnes KG5OBK

- Saturday QSO Breakfast @ Ballard Street Café @ 7:30 a.m.
- SARA's Weekly Information Net, Monday at 7:00 p.m.
- Next Laurel VE Session October 19th @ North Pointe Church, 9 – 11 a.m.

SARA Information Net

The SARA Information Net is held on Monday, at 7:00 p.m. Weekly Information Net Control:

October 14th	Lonnie Webb KG5WHQ
October 21st	Kathy Wingo KI5LEY
October 28th	Ev Wingo KI5LEX
November 4th	Andy Barnes W5KZJ
November 11th	Jeff Feldman KI5DDX
November 18th	Kathy Wingo KI5LEY
November 25th	Ev Wingo KI5LEX
December 2nd	Andy Barnes W5KZJ
December 9th	Kathy Wingo KI5LEY
December 16th	Andy Barnes W5KZJ
December 23rd	Jeff Feldman KI5DDX
December 30th	Ev Wingo KI5LEX
January 6th	Andy Barnes W5KZJ

Newsletter Editor's Report—Lonnie Webb KG5WHQ

The October newsletter has been posted to the website and emailed to membership (distribution 161). Submissions for the newsletter are due by the 25th of each month. The goal is to have the newsletter out on the 1st of each month.

Article Ideas:

- Projects that you are working on or have completed,
- Events and activities related to amateur radio,
- Articles you have read in other publications,

Remember, our distribution is beyond our membership and our content could encourage other people to come get involved!!

Send pictures and articles to newslettereditor@sachseradio.org

GARC FCC Classes

GARC is offering an FCC class running 6 consecutive Tuesday evenings: Technician Class is October 29 – December 3, 2024. For more information contact **John, KF5FWK** at education@k5qhd.org

2025 Budget Proposal

What	Where	When	Budget Amount
Equipment Insurance	ARRL	1-Mar	$131.64
Liability Insurance	ARRL	1-Jun	$200.00
PO Box	USPS	30-Jun	$170.00
Field Day		1-Jun	$45.00
SARA Web URL	Namecheap.com	23-Sep	$15.00
Christmas Door Prizes		Oct - Nov	$300.00
Pay Pal Fees	Pay Pal		$33.00
Miscellanous Items			$200.00
		Total	$1,094.64

A copy of the proposed budget for 2025 will be printed in the November SkyWaves for your review. Please come to the November General Meeting ready to vote on the 2025 Budget.

Other Business

Treasurer **Ev Wingo KI5LEX** wanted to mention that the club has been using PayPal to collect membership dues. After reviewing the records for the past three years it appears that the club has paid $100 in fees. It is recommended that the club explores other options to save the fees. While the fees are not an exorbitant amount every penny counts currently. The bank does accept Zelle which has no fee. Or perhaps Venmo. More discussion will be held at the upcoming BoD.

Club Direction

Some activities that were brought up are as follows:

Fox Hunt—the club does not currently have one. **Lonnie Webb KG5WHQ** stated that he could help build one.
Antenna build—a club activity to build a tape measure antenna was suggested.
You Tube videos—there are a lot of videos that we could share with the members.

Winter Field Day—it was discussed whether the club would participate in Winter Field Day coming up in January. A couple of heavy PIO/Facebook notes to let general membership know about the event. A minimum number of participants will be determined to see if there is any interest.

Adjournment:

MOTION: Ev Wingo KI5LEX made a Motion to adjourn the meeting at 8:17 p.m. **Andy Barnes W5KZJ** seconded the motion. Motion carried unanimously.

Respectively Submitted by
Kathy Wingo KI5LEY◆

Board of Directors Meeting Minutes

SARA Board of Directors Minutes
October 24, 2024

The meeting was called to order at 7:01 p.m. by **President Andy Barnes W5KZJ**.

Invocation

The Invocation was offered by President **Andy Barnes W5KZJ**.

Attending the meeting:

President Andy Barnes W5KZJ
Vice President Jeff Feldman KI5DDX
Secretary Kathy Wingo KI5LEY
Treasurer Ev Wingo KI5LEX
PIO Lisa Barnes KG5OBK
Newsletter Editor Lonnie Webb KG5WHQ
Director at Large Jim Szot N5JS

Ham Club Online

Propose we do away with Ham Club Online

Ham Club Online was used by the previous secretary. The club does not use it currently.
MOTION: Andy Barnes W5KZJ made a motion to not use Ham Club Online. **Ev Wingo KI5LEX** seconded the motion. Motion carried.

PayPal

What would be involved in changing our links to Zelle? There are no charges from the bank to use Zelle.

PayPal charges a percentage of each transaction which the club has been paying over the last few years. If a member does not want to use Zelle they can pay with cash, mail a check to the PO Box, or pay at the next General Meeting.

ACTION: The date of January 1, 2025, was set by the board to make the change over PayPal to Zelle.

Club Activities

Your thoughts

How to make it happen

November 2nd POTA Activation at Spring Creek Forest Preserve beginning at 9 a.m. **Andy Barnes W5KZJ** will go there directly after breakfast to set up.

The club has talked about making radio contact with a satellite. Not sure who in the club would have the capabilities to make this happen.

Soldering Class – have not able to contact the church to see if we could use the patio area. Bob DeVance of the McKinney Club has put on this class before so perhaps the club could get him to lead this class.

Antenna Build – it previously discussed to do a measure tape antenna.

It was suggested that an activity be planned to go a park and make a 15-20m dipole and let people make contacts with it.

Suggestion for presentation topics

November 14th General Meeting - **William Newman, WL9N** District Radio Officer Texas State RACES District 4.

Lonnie Webb KG5WHQ suggested that an invitation be made to **Jeff Wilson K5ND** to do a presentation about using six-meters for January 2025 General Meeting. At the time of this meeting no follow up had been done.

December 7th General Meeting – Christmas Party @ 6:30 p.m. (see next item)

December 12th Google Meet - December BoD Meeting @ 7:00 p.m.

Jeff Feldman KI5DDX stated that he would be interested in learning about Beacon (RBN).

Ev Wingo KI5LEX remembers reading an article on how to spot yourself when doing POTA if you don't have any internet. Ev will research and bring to a meeting.

Christmas Party

Location

Door Prizes

The Christmas Party for members of SARA will be held at Napoli's in Wylie on Saturday, December 7th beginning at 6:30 p.m. The menu and price will be determined.

Request for Funds/Reimbursement

Proposed new form

Make a folder in the Google Drive to keep track

The decision will be made at BoD meetings before payment is made

Ev Wingo KI5LEX has developed a form to track the club's funds being spent and reimbursements done during the year. (see last page of minutes)

ACTION: There will be a folder on the google drive to place forms and receipts to keep track of the expenditures throughout the fiscal year.

New Letterhead

Rev 2
Rev 3
2024

Andy Barnes W5KZJ showed three different ideas for the new letterhead.

It was discussed and determined that not enough letters were written that required the use of letterheads. The item is tabled until the need arises.

Club Equipment

John Smyder W5JWS has asked that the club equipment be removed from his house.

There is a lot of old stuff from a silent key that was given to the club. Some of it doesn't work. There are some kits included.

ACTION: Andy Barnes W5KZJ will contact **John Smyder W5JWS** to set a time that we could come do an inventory.

Other Business

None.

Motion to adjourn

MOTION: Kathy Wingo KI5LEY made a motion to adjourn the meeting at 7:45 p.m. **Lisa Barnes KG5OBK** seconded the motion.

Sachse Amateur Radio Association

Request for Funds / Reimbursement

Date: _____ Member Name: _____

Item(s) / services to be purchased: _____

_____

This money is (check one):

- ☐ **In the annual club budget. Budget category is:** _____
- ☐ **Less the $100.00 and not in the annual club budget. Signatures from the business committee follow:**

  Pres:_____ **VP:**_____

  Secretary:_____ **Treasurer:**_____
- ☐ **Greater than $100.00 and not in the annual club budget. Minutes from the meeting where the expenditure was approved by the club membership are attached.**

Amount Requested: $_____

Notes: _____

_____

Actual Amount Spent: $_____ Receipt: **Y** **N**
Tax Paid:_____

Reimbursement: Check # _____ Date: _____

GigaParts Launches Connect Rewards Program, Delivering Exclusive Benefits and Savings to Tech Enthusiasts

Huntsville, Alabama — October 29, 2024 — GigaParts, the leading technology superstore for tech enthusiasts, announces the launch of Connect Rewards, a new loyalty program designed to reward customers with points on every purchase. Connect Rewards offers customers the opportunity to earn points redeemable toward future purchases online at gigaparts.com and at the GigaParts Technology Superstore in Huntsville, Alabama.

Program Highlights

Free to Join: Joining Connect Rewards is free, and customers can sign up online or in-store with a simple account creation. Existing GigaParts account holders are already enrolled and automatically begin earning rewards points immediately.

Earn Points on Every Purchase: For each $1 spent on GigaParts products or services, members will earn 1 Reward Point, which can be applied to future purchases. Connect Rewards will also offer exclusive promotions throughout the year, enabling members to earn double or even triple points on selected products.

Redeem Points for Purchases: Members can use their accumulated points toward the purchase of any item. Additionally, throughout the year, select products will be available for purchase at special discounted point values, giving members even more ways to save on their tech essentials.

How Connect Rewards Work

Customers can easily start earning points by signing into their account when shopping online or by providing their registered email address at checkout in-store. Points cannot be earned retroactively or applied to previous purchases, but every dollar spent from today onward will contribute to members' point balance.

"We're thrilled to launch Connect Rewards as a way of giving back to our loyal customers," said Robby Sperr, CEO of GigaParts. "Connect Rewards not only helps customers save but also makes their experience more rewarding through exclusive offers and opportunities to earn points year-round."

"We designed Connect Rewards to bring extra value and benefits to our customers," added Jeff Sinclair, e-Commerce Division Manager at GigaParts. "It's an exciting opportunity for them to save and engage more deeply with the tech they love, and for us, it's a way to build even stronger connections with our community."

Customers can monitor their rewards points by signing in to their GigaParts account online. Full terms and conditions, along with additional information about Connect Rewards, can be found at gigaparts.com/join-connect-rewards.

New customers can join Connect Rewards today by visiting gigaparts.com/join-connect-rewards.

About GigaParts

Founded in 1998, GigaParts has become a trusted destination for tech enthusiasts, offering a comprehensive selection of products, including computers, 3D printing, photography, astronomy, and amateur radio equipment. With a flagship store in Huntsville, Alabama, GigaParts provides a one-stop shop for the tech community. `https://www.gigaparts.com`◆

Homebrew Sferics Receiver Lets You Tune Into Earth Music

It probably comes as little surprise that our planet is practically buzzing with radio waves. Most of it is of our own making, with cell phones, microwaves, WiFi, and broadcasts up and down the spectrum whizzing around all the time. But our transmissions aren't the only RF show in town, as the Earth itself is more than capable of generating radio signals of its own, signals which you can explore with a simple sferics receiver like this one.

If you've never heard of sferics and other natural radio phenomena, we have a primer to get you started. Briefly, sferics, short for "atmospherics," are RF signals in the VLF range generated by the millions of lightning discharges that strike the Earth daily. Tuning into them is a pretty simple proposition, as [DX Explorer]'s receiver demonstrates. His circuit, which is based on a design by [K8TND], is just a single JFET surrounded by a few caps and resistors, plus a simple trap to filter out the strong AM broadcast signals in his area. The output of the RF amplifier goes directly into an audio amp, which could be anything you have handy — but you risk breaking [Elliot]'s heart if you don't use his beloved LM386.

This is definitely a "nothing fancy" build, with the RF section built ugly style on a scrap of PCB

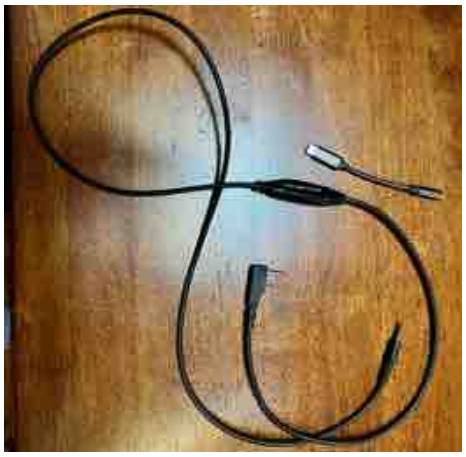
Continued on Page 23

APRS WITH THE RADIO YOU ALREADY HAVE

By Lonnie Webb, KG5WHQ

APRS capable radios are expensive! The cheapest one I found was $200.00 USD and not feature-rich. Seems like a pricey proposition to locate hams on a map.

Luckily, I have an $18 USD 2m HT radio with a Kenwood-style K-plug and at least one iPhone and BTECH makes a lovely cheap APRS cable. *Note: This is not a programming cable and electronically different.*



BTECH are an American company, while they likely have their products fashioned by China. The developers provide details in the package that are expectedly perfect for a Baofeng.

So, I laid out $22 USD for the cable, now offically more expensive than my Chinese radio. It comes with an adapter for old Nokia-style phones with reversed audio plug sleeve and ring—which I tossed to one side.

You plug this critter into your K-adapter receptacle on your HT (You can wire up an alternative if you don't have the correct plug built into your radio). The other end goes into your phone or tablet. It probably works on a computer but I haven't tried.

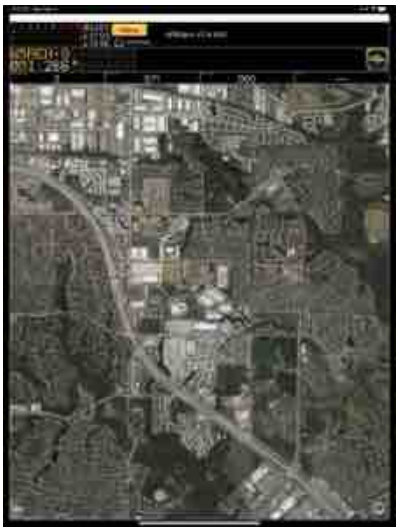
I did have to use an adapter for the audio-to-USB port on my iPad(no audio jack on this model).

Turn off your radio's dual watch and the SQL auto setting to 1 or the lowest setting. In the US, set your frequency to 144.390 MHz. Set your volume to usual level and no more.

Note:*This is the jewel that protects your radio and your phone in case you mess up the volume. It is very necessary.*

Next you need an APRS app. On Android, use APRSdroid. On iPhone I use APRSpro Ultimate, which does require a $30 per year subscription. That opens up the IGATE and Digipeater built-in features. Set your callsign and keep the defaults. Change NOTHING. Make changes after you get it working.

I quickly found local weather stations and digipeaters but no other hams. Why did that happen?



Turns out, I had my stock antenna here in the hole of North Star Rd. A quick switch to W5JS's more expensive portable antenna gave me better results and I began picking up vehicles in motion and other hams doing things. The more antenna the more quality!

There's a spot to type on the app. What can that message field do? That's a topic for another day.

Sources: Amazon[BTECH APRS-K1], Google Play Store[APRSdroid], IOS App Store[APRSpro Ultimate].◆

Automatic Packet Reporting System (APRS) is an amateur radio-based system for real time digital communications of information of immediate value in the local area. Data can include object Global Positioning System (GPS) coordinates, non-directional beacon, weather station telemetry, text messages, announcements, queries, and other telemetry. APRS data can be displayed on a map, which can show stations, objects, tracks of moving objects, weather stations, search and rescue data, and direction-finding data.

Lite Tech Corner

By Bob DeVance, K5CRX
bdevance@rdcons.com

Do you own a VOM (volt-ohm meter)? If not, you probably should. These handy instruments can be purchased from $4 up at several discount houses in the digital format (DVM) and/or the analog format.

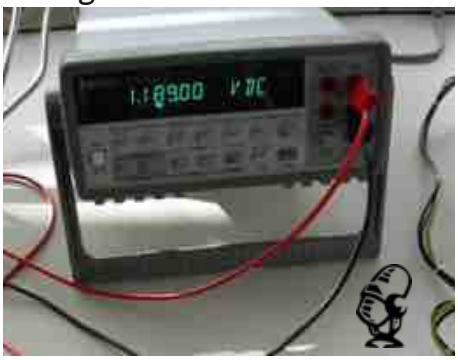


Figure 1. A Digital Voltmeter

Digital vs. analog is a purely personal preference. I tend to use both from time to time for various tasks.

So – if the VOM is so handy, what can I do with it really? Here are two of the most common uses:

1. Measure voltage
2. Measure resistance (or continuity)

That lamp in the living room just won't come on. Whip out the VOM, set it to measure AC voltage in the 100- to 150-volt or so range, and check the AC outlet where the lamp is plugged in. If you read somewhere around 110 to 120 volts AC, that indicates that AC power is present at that outlet. Now remove the lamp bulb (assuming it's a conventional bulb, not a compact florescent light – "CFL") and set the VOM to read resistance in the range of a few ohms to maybe a thousand ohms or so. Place the probe tips together and the meter should indicate 0 ohms or very near that (depending on the sensitivity and ranges of the meter). This is essentially a "short" circuit. Then place a probe tip on the round button on the base of the bulb and the other probe tip on the threaded shell around the base of the bulb. Again, the reading should be a low value of a few ohms. If that's the case, the bulb is good. If the resistance reading remains at infinity, the bulb is "open circuit" or burned out.

Now – what if the bulb is good and the voltage at the wall are both OK? Then we have an issue with the power cord, the switch, or the lamp socket. Next time we'll check these using the VOM.

Stay tuned!!◆

Read Part 97 Rules

Have you ever actually looked at the Part 97 rules? I, for one, barely considered what it is as I just saw it named in the ARRL manual but never thought more about it.

Nowadays it pays to find out what the wording is. As an amateur extra I have read all the manuals but not the rules so I looked it up.

If you look it up, the FCC regulations as they pertain to ham radio amateurs are spelled out specifically. What surprised me was that it reads like a transcript of a technician test! It shouldn't have been in a surprise as that is the purpose of the license in the first place—to enforce that we learn and practice the FCC regulations.

The URL listed here will take you directly to the regs. It gives a reassurance that you did actually learn what is spelled out by the FCC.

https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97

◆

Learning Arduino

by Ev Wingo, KI5LEX

The Process Begins

Living in Texas, I find it very uncomfortable to get outside and do things in the summer. So, therefore I will go out and do things in the winter, right?

Certainly, more than I do in the summer, but there are still days when the prairie winds blow, and it feels like the only thing between me and the frozen North of Alaska is a barbed wire fence.

So, what to do to keep me occupied on those days when it is too cold to go outside, do POTA activations and such? I have seen several books with a title indicating that they contained many exciting projects for ham radio using an Arduino. Sorry – an Ardu-what?

A little background about me is in order. I used to write code many years ago. To give you an idea of how long ago (and how old I am), I told my daughters that the FORTRAN programs I created kept a roof over our heads and paid for their first cars. My daughters are both now in their forties. The last code I wrote that found use was written in C++, and was used by people who did not speak English as their first language. As such, I had to pay close attention to the user interface details. Labels and prompts had to be simply worded, without abbreviations and without using any "jargon". I returned from that assignment to the US in

2001 after that assignment, and the company I worked for was flush with code throwers. However, they did need system engineers. Specifically, they needed someone to write specifications for user interfaces that were precise, functional and worded such that a coder could translate the set of requirements into a functional screen. "Hey Wingo – want a job in systems?" My coding days were over.

Here we are today. I had heard about the versatile Arduino microcontroller board, and when I saw the books about using it for amateur radio projects, I thought I'd give it a try.

A few weeks ago, I saw these two kits on sale at Amazon:

Figure 1. Arduino starter kit on Amazon

Figure 2. Sensor modukes kit on Amazon

These were within my budget, so I pulled the trigger. They arrived in good quality storage boxes. I was impressed.

Figure 3. Starter kit as delivered

Figure 4. Sensor kit as delivered

Figure 5. Both kits open (After being savaged by Ev)

The lower picture shows all the gadgets and components in the Sensor Kit box.

Luckily, I still have a desktop computer with a DVD drive to get all the documentation and examples.

Next, I needed to find the IDE (integrated development environment) so I could create the program for the Arduino. Found that without any trouble, downloaded and installed it. The Arduina community calls a program for the Arduina a "sketch". Started up the IDE and got this screen:

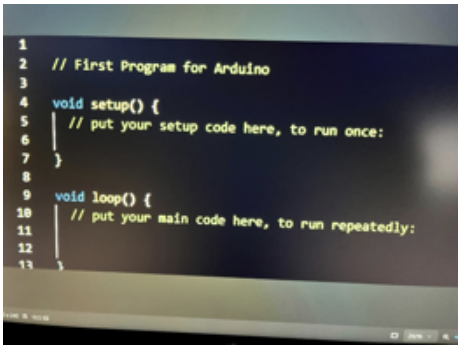

// First Program for Arduino
void setup() {
// put your setup code here, to run once:
}
void loop() {
// put your main code here, to run repeatedly:
}

Figure 6. Action photo.

So, the first program you create when you are beginning to use a new programming language is called "Hello World!" This looks a lot like C. No *.h or #include files, but I suppose that comes later.

This is how you modify the code above to get your first program:

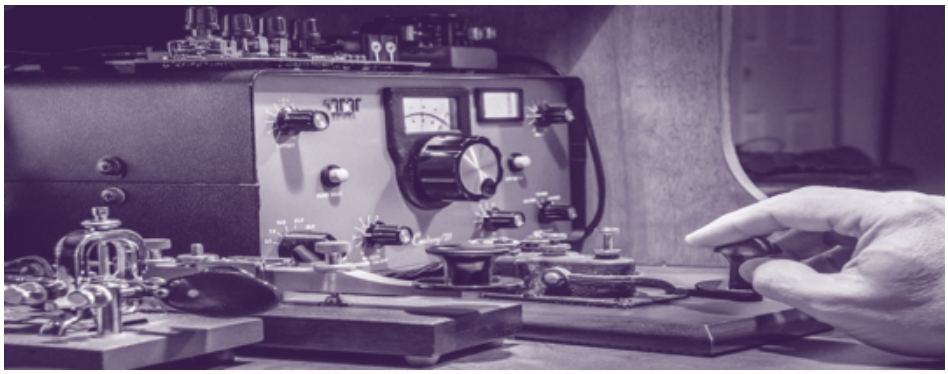
```
}// First Program for Arduino

void setup() {

// put your setup code here, to run
once:
    Serial.begin(9600);
    Serial.println("Hello World!");
}

void loop() {
// put your main code here to run
repeatedly

}
```

Couple of things – You must select the board type & COM port connected to your computer within the IDE. The IDE has USB drivers that create several virtual COM ports. To see the "Hello World!" message, you must have the Serial monitor within the IDE running. Your message will appear once in the lower window of the IDE. To see it run in an infinite loop, simply move the Serial.println line down to the loop function. Recompile and reload the sketch, and you'll see the message a whole bunch of times.

That's it for the first time column. Next month, I'll have several examples of sketches that make LED's blink, detecting input from various sensors and several other learning (but useless) examples. Good luck and stay tuned.

73 - Ev◆

DO YOU HAVE A PRESENTATION OR AN ARTICLE YOU WANT TO AIR OUT BEFORE PUTTING BEFORE YOUR CLUB?
newslettereditor@sachseradio.org



BALUNS II

By Jim Eatman, KG5WAW

What I Didn't Know

N5YDX and I have been testing baluns. We have tested store-bought baluns, and homemade ones.

There were a few surprises.

Baluns are Very Efficient

While you might lose 1 dB in an antenna tuner, you probably won't lose 1 dB in a balun. Baluns, when designed properly for the frequency of use, are very efficient.

But, like everything else in the RF world, it "depends".

Baluns are transformers. The performance of the cores in them vary with frequency. The windings exhibit skin effect, and they have inductance, and the windings are self-resonant at "some" frequency. You just hope that these effects don't prevent you from using the balun at the frequencies you want to use them at.

For example, we tested a Ruthroff 9:1 balun that exhibited self resonance at 80 MHz. I'm not going to use the balun at over 30 MHz, so this isn't a problem.

There is no Substitute for a Single Band Antenna

Baluns are often used to bring multiple bands within the range of an antenna tuner. The classic example is the end fed half wave wire (EFHW). The wire is cut so that it is a half wave multiple on several bands - perhaps 40 - 20 - 10. A half wave end fed wire exhibits a high impedance - several thousand ohms. The EFHW balun is typically a 49:1 transformer (7:1 turns ratio), which would make a 2450 ohm impedance look like 50 ohms to the feedline.

The limitations of this approach are that some bands are not half wave multiples. They may not be usable, even with a tuner.

There are these things called "baluns" that aren't baluns.

In the end, there is no substitute for a single band dipole or monopole. Properly tuned single band antennas require no balun and perhaps no tuner, either.

Problems

Some bands are not half wave multiples. And some bands are so wide that the band ends are not half wave multiples. For example, the CW end of the 80 M band might be 3.550 MHz. The voice end of the band goes up to 4 MHz. If the EFHW is cut for a half wave at 4 MHz, the next half wave multiple is 8 MHz. There is no 8 MHz ham band.

Since I'm always looking for a way to plug CW... the CW end of the 80 M band just happens to be a half-wave multiple of the 40 M band. Just sayin'.

Machines

There are manufacturers who make motorized antennas that mechanically alter the antenna length for different bands. They are not cheap. But, this approach solves a lot of problems.

Reality in the Ham World

Stuck in the suburbs. Luckily you have no HOA, but you are on a small lot. Can only have one HF antenna, and it can't be 130 feet long. What to do?

A long wire, cut to a length that excludes half wave multiples of the bands you want to use, can work - with a good antenna tuner and a balun. I have used this approach for years. Right now, I'm running a 43' wire and a 4:1 balun. There are antenna manufacturers that make 43' verticals (tubular aluminum) with 4:1 baluns. In the past, I have used shorter wires with a 9:1 balun. They worked on 40 M, but were too short for 80 M use.

Monopole antennas that are shorter than 1/4 wave (or dipoles shorter than 1/2 wave) are not as efficient as full-length, single band antennas are. So, then

what?

Then What

There are two ends to this problem: the receiving end, and the transmitting end. When an antenna is not efficient on the band of use, performance on both ends suffers.

On the receive end, remember that HF is noisy - especially on the 40 M and longer bands. Signal strength alone is not the issue. The only thing that counts is signal strength above the noise. If you can hear the noise... you have enough receiver gain to work the band. Today's HF receivers are usually way more sensitive than they have to be.

On the transmit end, there is the brute force remedy - increasing the power. Linear amplifiers do this.

With increasing power, there are the issues of component sizing and RF safety. If you run, say, 600 W - everything in the antenna and feedline system has to be rated for 600 W. If you run 600 W, you have to meet RF safety requirements for 600 W. Your suburban lot may not be big enough to get the safe distance from the antenna that you need.

QRP is the Crucible

When running QRP, none of these "tricks" are options. You can't cover up inefficient antennas with more power.

QRP is the land of simplicity and efficiency. In that world, a lot of people use end fed wires. They pack light. One of my QRP friends packs multiple single band wires for different bands, and he throws them into trees.

My favorite QRP antenna is an 18' mast (natively, 20 M) with an adjustable loading coil for use on 30 M and 40 M. I poke it in the ground with a stake mount.

The lessons learned from successful QRP operation are immediately applicable to QRO operation.

I once had a "non-ham" - that is, a normal person... ask me why anyone would purposefully run QRP. I told him that we did it to increase the difficulty. But, QRP is also a learning experience.

Life is too short for QRO. Isn't that what they say? Maybe I got that wrong...

The Challenge of Limitations

That's really what amateur radio is for most operators. It's the limitations imposed by not having infinite money to spend on the hobby. It's the limitation of lot size. It's the limitation of the HOA (ugh!). And even if you have none of those limitations - there's the ionosphere and the weather to deal with.

AT&T used to run commercial voice and data via HF. Bell Labs realized in the 1950s that the only way to "solve" the reliability problem was to quit depending on the ionosphere, and use satellites instead.

Hams running HF are really playing in the ionospheric casino.

What Baluns Are

Baluns have several functions. One is, to match an unbalanced feedline (coax) to a balanced antenna (a dipole). Another is to transform the impedance of an antenna to match the impedance of the feedline.

There are these things called "baluns" that aren't baluns. They are feedline inductors used to reduce "RF in the shack".

IT'S YOUR RESPONSIBILITY:

REGULARLY ASSESS RF RADIATION

More properly, the are called "line isolators".

So, baluns are an important part of winning the "challenge of limitations".

The baluns themselves introduce limitations. Those limitations include power rating, low frequency response, high frequency response, and self-resonance.

If driven too hard, a balun core can overheat. If a balun core exceeds the Curie temperature of the core material, it no longer acts like a magnetic core. The overheated core assumes the permeability of air. You will know that this is happening when your SWR goes wild after long periods of transmitting (FT8 practitioners, beware). Usually this is reversible by letting the core cool off.

The Moral of the Story

The moral of the story is, run a single band antenna if you can.

Run QRP because it's simpler. You can haul your QRP gear up a mountain on a SOTA outing, and the views from the summit could be spectacular.

And run CW because you'll get farther with QRP if you run CW or FT8.

Don't run FT8 because it's newfangled and it requires a computer.... and those 15 second transmit cycles can overheat your balun. I know that FT8 is popular. I'm just kidding. Sort-of.

Whatever you do, have fun. Radio is a hobby.◆

RADIO QUEST
TECHNICIAN LEVEL

	Found an Elmer(someone to answer how-to questions)
	Listened on a frequency before talking
	Used your call sign on your handy talkie(HT)
	Spoke to another person on a regular (simplex) frequency)
	Spoke on club repeater
	Sent an APRS update
	Logged in on QRZ.com and created a logbook
	Made a contact via satellite/ISS on an HT
	Got my grid location
	Gave a signal report
	Send a CW/Morse code CQ
	Attended a ham club meeting
	Joined the ARRL
	Checked-in on a club info net
	Asked a question on a net or a club meeting
	Joined breakfast Eyeball QSO on Saturday
	Passed a license exam
	Signed up for EchoLink
	Bought a cheap Chinese radio
	Bought an expensive Japanese radio
	Built a radio
	Built a j-pole/2m antenna
	Made a balun
	Made an RF choke
	Made a go-bag/go-box
	Went on a POTA expedition
	Asked a new contact what radio/ antenna they were using
	Was asked what radio/antenna you are using
	Served as a net control operator
	Join the ARRL

CHECK ALL THAT YOU HAVE COMPLETED. HAVE YOU FULFILLED THIS MONTH'S QUEST?

DO YOU HAVE SUGGESTIONS FOR NEXT MONTH'S RADIOQUEST?
LET ME KNOW HOW YOU DID. POST SCREENCAPS ON FACEBOOK FOR BRAGGING RIGHTS!

newslettereditor@sachseradio.org

PREPARE
What You Need To Not Die When Texas Attacks
By KG5WHQ

Figure 1. Spot the houses in this picture taken after hurricane Milton, 2024.

Like Australia, Texas will try to kill you from time to time. Luckily, this year we have been distant spectators to the bad hurricanes, tornados, and floods that have punctuated 2024 like an unpleasant percussion section of nature's band. To avoid certain degrees of mild or severe death, let's review what one needs to survive after a Texas disaster.

Following the event, your house is wrecked. If not it wouldn't be much of a disaster, you might think. In addition, your car might be gone. You stumble over whatever debris is where your floor used to be, go to your stash of supplies, and—what do you have? Remember, your house might be flattened. Power is almost certainly out. Are you hurt? Are you bleeding out?

Now that we're thinking "really don't have anything to warm ourselves, eat, or keep dry. And what about all that blood?" Shake yourself, buddy! For this thought experiment, what do you need to live for the likely three days until help or power can be brought to you?(Note that based on the wreckage of the Rowlett tornado we are talking about a very likely 3-day delay for help to trickle to you.)

Safety: make yourself safe! Get out of the rain, falling debris, Sun.

Water: an adult can probably live for three days without water and recover. You won't like it. Ideally, you should drink two liters a day. Plus a third to make food and wash wounds and such. How many people do you have to keep alive? Multiply that by 3 liters. Times 3 days. Plan ahead.

Food: Again, within three days you are in trouble if you have no food. Oatmeal packets are wonderfully compact and will keep you from dying. You won't have that dry food if you haven't packed it away in water tight packaging. Plan ahead.

Shelter: Keep the wind, sun, and rain off you. Again, something safe. Keep warmth in. Keep your supplies dry. A tarp or two make emergency shelters if needed and fold up tight.

Trauma Kit: Pay attention. You must be able to stop bleeding(in contrast to a scratch). **A tourniquet you can operate is a must.** Sport tape/ duct tape/super glue for open wounds. Band-aids are not trauma bandages.

Heat(and cooling in Texas): You can't expect to make it through the night without minimal heat. You can heat water to a disinfected state with, well, heat. You can cook food with heat to transfer heat to your core. You need heat.

Cordage: have paracord on hand. A shelter needs to be held up after all. I keep a 6-foot hank in my pocket for surprise needs but 6ft is not enough. Plan ahead.

Knife: An essential tool for many reasons. Your ideal knife has a 90-degree edge to strike a flame using a ferro rod. It should be a full-tang knife in case you need to do a bit of bushcraft or need it as a weapon. I make two exceptions. 1) Morakniv makes several cheap rat tail knives such as the Companion or 2)Buck's 110, a locking folder, both stand up quite well to bushcraft.

Select your knife with the intent to use it for cooking, cutting and maybe even splitting wood, and worst case to have a minimal amount of a weapon.

Fire: Fire for heat, sterilizing water, light, and first aide. Light

Figure 2. Joplin, Missouri tornado damage.

for protection. A person's survival stash should include a watertight package of lighters, matches, and a Ferro rod. Have multiple options. Plan ahead.

Backup batteries: be realistic. You probably aren't ready to face the wild. You need communication when it's available. All your stuff needs power. Your batteries are also going to fail. Plan for it.

To conclude that thought exercise, find out about and take the next CERT preparation class for one main reason: this is not more than a list. You need training and practice to operate your Texas safely in an untamed world.

Now, how are you going to the bathroom?

Local Resources: 1) Your fire chief. 2) Your local CERT group. In Sachse, our CERT is reached at

https://www.sachsecert.org 3)Search "72-hour food and water" on Amazon. My first to hits gave me a personal supply for $50. (Your mileage will vary) 4) Dave Canterbury's Bushcraft 101. I found mine on Amazon.◆

RADIO QUEST

GENERAL LEVEL

	Tuned up your first HF frequency
	Made a DX contact(out of the continental US)
	Joined a traffic net
	Sent a radiogram
	Worked a Field Day contact
	Participated in a contest
	Used a digital mode
	Sent an email over the radio
	Connected your radio to the computer/internet
	Used a SWR meter
	Grounded your station
	Grounded your antenna
	Applied a lightning arrestor
	Drove a ground rod
	Computed RF emissions for your station
	Ran your station on a battery
	Powered your station from a car power supply
	Created your first scratch paper log
	Installed logging software(such as hamrs/n1mm)
	Logged on to LOTW
	Used a pi*star
	Used a Watt meter
	Made a counterpoise
	Threw a wire up in a tree for an antenna
	Know who Dave Cassler is
	Have given a Roger Roger (RR)
	Stood on a ladder and wondered *"Will it antenna?"*
	Joined RACES
	Listened to a weather net

CHECK ALL THAT YOU HAVE COMPLETED. HAVE YOU FULFILLED THIS MONTH'S QUEST?

DO YOU HAVE SUGGESTIONS FOR NEXT MONTH'S RADIOQUEST?
LET ME KNOW HOW YOU DID. POST SCREENCAPS ON FACEBOOK FOR BRAGGING RIGHTS!

newslettereditor@sachseradio.org

ARCHIVE.ORG GETS HACKED

By Jeff Feldman, KI5DDX

Internet Archive's "The Wayback Machine" recently suffered a data breach. In addition to compromising the website, a hacker group stole a user authentication database containing 31 million unique records.

One of the features of the archive is a historical online record of websites on the World Wide Web. For example, you could review the evolution of the website for the 1884 Bridgeford House Bed and Breakfast in Eureka Springs, Arkansas which I owned along with my wife from 2002 to 2014. The first very simple version of the website appeared in the late 1990's and evolved to more complex versions every few years. It's fun to see how various sites evolved over the last few decades.

I did some arms-length cybersecurity for the restaurant company I worked for from 2014 to 2024 and was a member of InfraGard. InfraGard is a partnership between the Federal Bureau of Investigation (FBI) and members of the private sector for the protection of U.S. Critical Infrastructure.

So what does this breach mean for the average person?

The prevailing wisdom seems to be that the group that hacked the site was likely Russian, Chinese, or South Asian hackers with two goals: establish some "street cred" and show they could breach this highly secure and prized site, and to garner email addresses to eventually sell to spammers and generate some operational income. Usually the hackers' targets are credit card numbers, passwords and other personal identification information, but it seems in this instance the payload was email addresses and associated sites. If you are experiencing or if you experience in the future an increase in emails that you have no idea how an advertiser got your email, the Internet Archive breach may be the cause of the sudden onslaught of unwanted emails. One frustration is that if you go to the website usually included in the emails to "unsubscribe" the website will capture your email from the unsubscribe request and you will get even more unwanted emails from associated advertisers or spammers.

The best thing you can do at this point is to simply delete unwanted emails and block them if your provider and/or platform allows. You should also keep an eye on your credit reports to ensure there hasn't been any recent transactions you don't recognize. Most of the big credit reporting agencies have an opportunity for free inquiries at least once yearly because of all the recent data breaches in many industries and retail operations.

Jeff Feldman, KI5DDX is our club vice president and is absolutely not a career criminal in cybersecurity.◆

A WYLIE TOWER-RAISING

With Jim Szot, N5JS and John Smyder, W5JWS

Saturday, October 26, a courageous fellowship of hams—W5JWS, N5JS, KG5WHQ and one unsuspecting Jeff Smyder—set out to the moutainous regions of Wylie. You know, just past the water treatment plant, to the resting place of W5JWS' not yet complete Mosley antenna.

It was an adventurous climb observing all the best safety practices of ladder usage. Observe how John sacrifice's his son to Osithard, the god of gravity.

Foreseeing certain disaster in the shadow of Mt. Humdrum, John then empowered a cribbing spell and levitated the entire tower using only his keying wrist.

Unfortunately, the antenna blew a tire. Being the only man young enough to use a scissor-jack in the air, Jeff was nominated to jack up the main boom from the supporting cross member. That John was holding up. With one hand. Jeff also changed the head lamp fluid while he was up there.

W5JWS, being an overbearingly jealous ham found himself compelled to take the ladder from Jeff in order to position the Mosely's elements. How did he do this?

By using his nuts.

While pounding his nuts, John carefully measured and tuned the elements to withstand the micro black holes that caused his elements to

sag after a long day in the sun. It was then Odin's minor hammer of rubber was used to "pursuade" John's nuts into place.

Lo, tragedy befell the fellowship of hams as John dropped his nuts.

Desperately, Jeff and N5JS searched the tarp for John's nuts fell to along with a lock washer. But just after it was found, John shouted "I dropped my nuts again."

"Mother love it, dad!" said Jeff.

"I see it!" said KG5WHQ. "It fell into a crack!"

"Who's crack?" asked N5JS.

"Technically it's John's crack."

"I can't believe you guys!"

N5JS and KG5WHQ took turns in the command and control supervision chair as the sun did beat down on all.

It was then that the circling vultures stood out.

Unbelievably N5JS took pictures but appeared in none! We suspect editorial mayhem struck the camera downloads from the one man to demand a photo and image release!

John W5JWS did the thinking part and finished the connectors and eventually was able to crank the massice 24' wingspan of the

antenna, tower and all, into the uproght prosition shown here.

Following an exhausting afternoon of being roasted in the sun John can now admire his do-anything radio tower from the

patio, the highway, the neighbor's house—where the vultures were hanging out—or just about anywhere else he chooses!

One wonders if Odin's minor rubber hammer of thunder ever fell to Earth after being left up there?

Thank you to N5JS and W5JWS for contributing to this irreverent accounting of our tower-raising adventure.◆

HUGO GERNSBACK - PART TWO

The Radio Club Before The ARRL.

By KG5WHQ

Congressional Regulatory Action

During the early autumn of 1908, as wireless technology flourished, there were no established radio laws. The air waves were more or less a wild west of chaotic activity. Individuals with transmitters would simply select any wavelength that suited them. However, this situation was causing concern, with early indications that Congress was considering regulatory action. The fear was that amateur broadcasters might be completely barred from the airwaves. Hugo Gernsback proposed that a national association of amateurs could assert their interests in Washington, an idea that proved to be essential when the first radio law was enacted in 1912.

To establish credibility for this proposed association, he reached out to notable figures in radio in October 1908, including Dr. Lee de Forest, who was a prominent figure in American radio at the time. The author invited Dr. de Forest to become the first president of the inaugural Wireless Association of America. Other notable co-founders included John S. Stone, a renowned radio personality who became the Vice President, and William Maver, Jr., author of one of the first radio engineering books, to serve as Secretary. Gernsback became Chairman and Business Manager.

The association was officially organized in November 1908, and its existence was announced in Gernsback's January issue of *Modern Electrics*. This was the world's first national radio association. By the end of 1912, the WAA had some 14,000 members scattered across the country, each of whom received a lapel button as a symbol of membership.

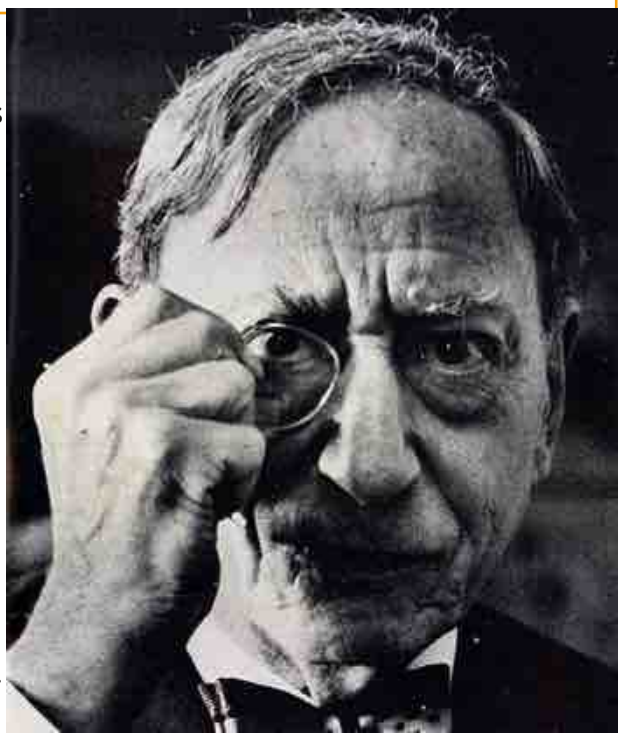


Figure 1. Hugo Gernsback

The Bluebook

The Wireless Association of America published a book containing the names and addresses of its members, known as "The Wireless Bluebook". This was the first publication of its kind, marking a significant milestone as the first radio association membership book filling the role of modern-day QRZ.com.

THE DE FOREST AUDION
"There is only one Audion—the De Forest"
MOST SENSITIVE
MOST RELIABLE
Price $14.00
SEND FOR BULLETINS X16 AND M16 DESCRIBING AUDION
Detectors, Audion Amplifiers and Audion Receiving Cabinets
DE FOREST RADIO TELEPHONE & TELEGRAPH CO.
101 PARK AVENUE
NEW YORK, N. Y.

Figure 2. Advertisement for the de Forest Audion

Dr. Lee de Forest's role as the first president of the first Wireless Association of America is noteworthy, given his numerous other pioneering achievements in the field. Even at that stage, his early recognition and support of radio's potential was a testament to his foresight. Dr. de Forest's commitment to amateur radio was further demonstrated by his provision of the audion(an electronic detecting or amplifying vacuum tube) and the associated radio receiver, which he sold to wireless amateurs during the early days of development. *(Expect more about this in a future issue—ed)*

Membership grew easily due to the lack of dues and obligations, attracting many young enthusiasts. The

membership served as a barometer of the nation's interest in radio, although it did not necessarily reflect the number of active transmitters. Despite this, the number of significant amateur stations had reportedly increased from around 150 in 1905 to about 500 or 600.

A tad more than we have in Sachse, TX.

The Bluebook included call letters, approximate wavelengths in meters, and the spark length of the induction coil for each station. The listed stations were located in the following states: Massachusetts, New York, New Jersey, North Carolina, Missouri, California, Texas, Rhode Island, Oregon, Illinois, Ohio, Pennsylvania, Connecticut, Florida, Indiana, West Virginia, Montana, Washington, Minnesota, Wisconsin, and Maine. Wavelengths varied from 32 to 950 meters, with average spark gaps ranging from 1/2 to 3 inches.

That's right, spark gap. Remember, this was the era of the Telimco.

WAA predated Hiram Percy Maxim's American Radio Relay Association (ARRL), which began in 1914. That was also the beginning of WWI, during which radio amateurism suffered from serious restrictions, especially on the east coast eventually cutting into the popularity of the WAA.

Sources: "Two Hundred Meters and Down: The Story of Amateur Radio", Clinton de Soto, published by the A.R.R.L.

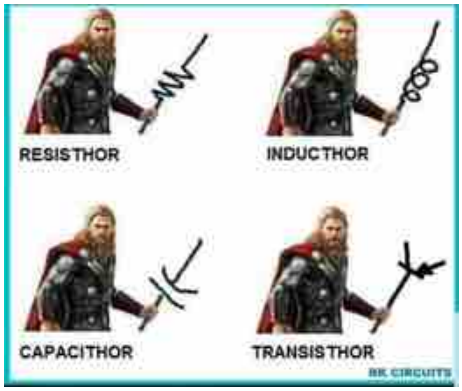
Kirt Blattenberger, KB3UON, https://www.rfcafe.com/references/radio-craft/wireless-radio-association-america-radio-craft-january-1947.htm◆

Earth Music

continued from page 12

and a simple telescopic whip used for an antenna. Tuning into the Earth's radio signals does take some care, though. Getting far away from power lines is important, to limit AC interference. [DX Explorer] also found how he held the receiver was important; unless he was touching the ground plane of the receiver, the receiver started self-oscillating. But the pips, crackles, and pings came in loud and clear on his rig; check out the video below for the VLF action.

Continue to Hackaday.io for more on sferics `https://bit.ly/sara-sferics` *and watch the video there.*◆



New Here?
Getting on the Club Repeater

If this is your first time signing on to a 2m UFH or VHF repeater, this is how you do it.

Assuming you are on a handheld HT get your manual or niftyguide out as all radio brands or models have different menu systems. For that matter, they rarely have the same words on the buttons.

1. Switch to VFO mode. This lets you enter a frequency as opposed to choosing a memory channel.

2. Punch in 440.350 MHz. On my Chinese junk radio, I key in 440350 as there is no decimal. My overprice Japanese radio only has a tuning knob which means I have to scroll each digit with the knob and cursor to the left.

3. Choose the shift setting and set it to "+" plus.

4. Set the PL tone to 110.9. Sorry, every radio does this in the hardest way they can find but when you see the option, your radio will help you choose the right value. Maybe.

5. Check that you are truly in FM mode, not digital.

6. Hit the PTT (Push-to-talk) button and listen for the beep. If you get a beep back from the repeater you did everything right. Save to a memory channel.

Greg Kent KK6AXF slaves over the hardware for us. Be sure to take a moment and thank him and our repeater trustee John Smyder W5JWS—they're always listening. They have no life.◆

November

Sunday	Monday	Tuesday
10a Sachse FallFest @ Heritage Park **8p Sachse RACES Public Service Net @ W5SRA** **1p** Military Veterans D-Star Net @ REF026A **2p** Texas RACES Net (HF) @ 7.255MHz **7p** Intl D-Star Net @ REF001C **8p** K5TIT D-Star Net @ REF33B	**7p SARA Weekly Information Net @W5SRA** **7p** DARC (Dallas) Geek Net @ W5FC **7p** GARC (Garland) Club Meeting	**7:30p** Texas ARES Net **8p** Texas D-Star Net @ REF004B
3 **1p** Military Veterans D-Star Net @ REF026A **7p** DARC (Dallas) Meeting on the Air **7p** Intl D-Star Net @ REF001C **8p** K5TIT D-Star Net @ REF33B **9p** Collin County ARES @ WD5ERD	**4** **7p** GARC (Garland) Club Meeting **7p SARA Weekly Information Net @W5SRA** **7:30p** Texas ARES Net @ 3.873 MHz **7:30p** RWK -- Meeting on the Air @ 147.12	**5** **7p** DARC (Dallas) General Meeting **7:30p** Texas ARES Net **8p** Texas D-Star Net @ REF004B
10 **1p** Military Veterans D-Star Net @ REF026A **2p** Texas RACES Net (HF) @ 7.255MHz **7p** Intl D-Star Net @ REF001C **8p Sachse RACES Public Service Net @ W5SRA** **8p** K5TIT D-Star Net @ REF33B	**11** **7p SARA Weekly Information Net @W5SRA** **7:30p** Texas ARES Net @ 3.873 MHz	**12** **7:30p** Texas ARES Net **8p** Texas D-Star Net @ REF004B
17 **1p** Military Veterans D-Star Net @ REF026A **2p** Texas RACES Net (HF) @ 7.255MHz **7p** Intl D-Star Net @ REF001C **8p** K5TIT D-Star Net @ REF33B	**18** **7p SARA Weekly Information Net @W5SRA** **8p** American Legion Post 315 Radio Club Net @ W5SRA	**19** **7:30p** Texas ARES Net **8p** Texas D-Star Net @ REF004B
24 **8p Sachse RACES Public Service Net**	**25** **7p SARA Weekly Information Net @W5SRA** **7p** DARC (Dallas) Geek Net @ W5FC **7p** GARC (Garland) Club Meeting **7:30p** Texas ARES Net @ 3.873 MHz	**26** **7:30p** Texas ARES Net **8p** Texas D-Star Net @ REF004B

CLUB CALENDAR

November

Wednesday	Thursday	Friday 1	Saturday 2
6:50p NTx Readiness QST Net	**11a** GARC (Garland) Crony Lunch @ Judy's Cafe **8p** GARC (Garland) InfoNet		**7:30a QSO Breakfast@Ballard St. Cafe** **9a Parks on the Air (POTA) Activation** **12p** Garland "Hands-On" Gathering **7p** DARC (Dallas) Tech Net **9p** Saturday Night D-STAR Net@REF029A
6:50p NTx Readiness QST Net **6**	**11a** GARC (Garland) Crony Lunch @ Judy's Cafe **7** **8p** GARC (Garland) InfoNet	**8**	**7:30a QSO Breakfast @ Ballard St. Cafe** **9** **9a** W5YI VE Test Session @ Wylie **7p** DARC (Dallas) Tech Net **9p** Saturday Night D-STAR Net@REF029A
6:50p NTx Readiness QST Net **13** **7p** Murphy CERT Net @W5SRA	**11a** GARC (Garland) Crony Lunch @ Judy's Cafe **14** **7:30p SARA (Sachse) Club Meeting** **8p** GARC (Garland) InfoNet	**15**	**7:30a QSO Breakfast @ Ballard St. Cafe** **16** **9a W5SRA Laurel VE Test Session** **7p** DARC (Dallas) Tech Net **9p** Saturday Night D-STAR Net@REF029A
6:50p NTx Readiness QST Net **20**	**11a** GARC (Garland) Crony Lunch @ Judy's Cafe **21** **7p SARA Board of Directors Meeting** **8p** GARC (Garland) InfoNet	**22**	**7:30a QSO Breakfast @ Ballard St. Cafe** **23** **7p** DARC (Dallas) Tech Net **9a** GARC (Garland) ECC Open House **9p** Saturday Night D-STAR Net@REF029A
6:50p NTx Readiness QST Net **27**	**11a** GARC (Garland) Crony Lunch @ Judy's Cafe **28** **8p** GARC (Garland) InfoNet	**29**	**7:30a QSO Breakfast @ Ballard St. Cafe** **30** **7p** DARC (Dallas) Tech Net **9p** Saturday Night D-STAR Net@REF029A

MAKE A DEATH RAY

HOW DOES IT GET FROM HERE TO THERE?
WELL, YOU KNOW RADIO WAVES MOVE IN AIR!
THINK OF THE AIR AS A BLANKET FULL OF STATIC AROUND THE EARTH!
WHEN I DO THIS...
IT ZAPS MY HAND!
HOW DO I ELECTROCUTE THE MOON?
STILL ON THE DEATH RAY PLAN, HUH?

Copyright ©2024 Lonnie Webb. All Rights Reserved. LONNIE@LONNIEWEBB.COM

NEXT MEETING:
November 14, 7:30pm
CHRISTMAS PARTY:
December 7, 6:30pm

Do your young folk enjoy the comics in this section of SkyWaves? They might just learn something...

Don't blame me if they do!

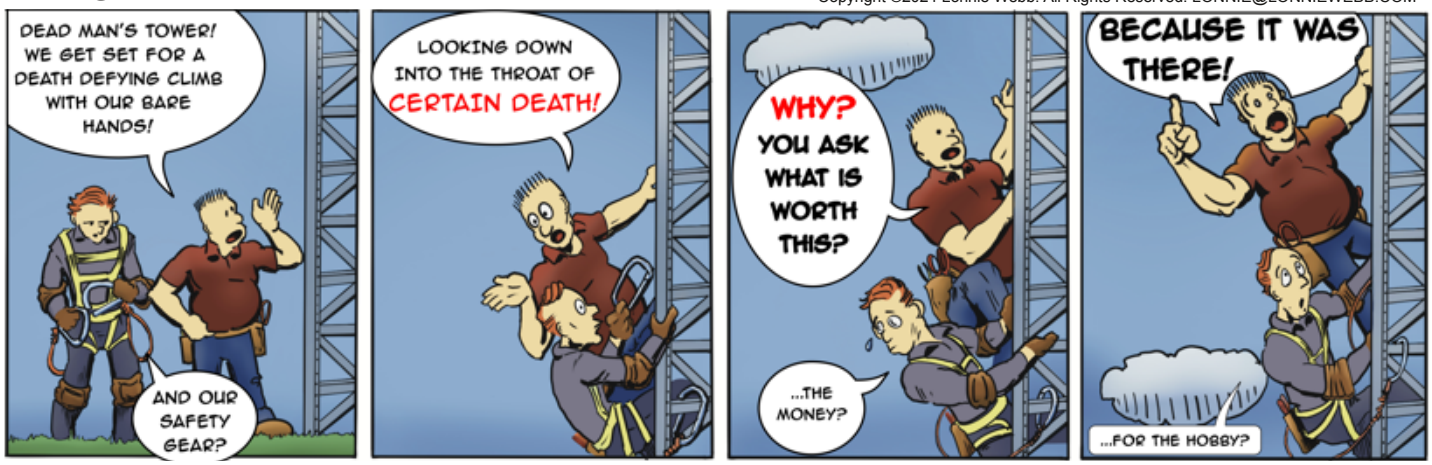
SARA Skywaves

Is published each month for the purpose of informing Sachse Amateur Radio Association members of current events and issues of interest to amateur radio operators. Articles and suggestions are always welcome. Articles that appear in this publication may be reproduced provided credit is given to SARA Skywaves and to the original source.
SARA is a Texas Non-Profit 501(c)3 corporation based in Sachse, TX.

SARA Newsletter Editor
P.O. Box 1764
Wylie, TX 75048-1764
newslettereditor@sachseradio.org

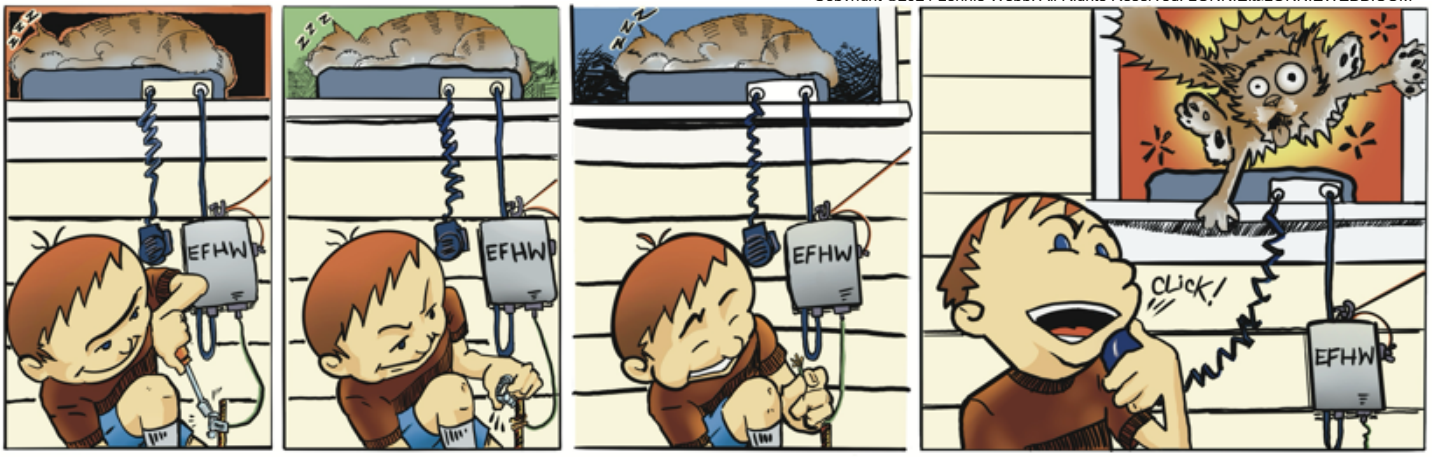
MIKE CALL

Copyright ©2024 Lonnie Webb. All Rights Reserved. LONNIE@LONNIEWEBB.COM


DEAD MAN'S TOWER! WE GET SET FOR A DEATH DEFYING CLIMB WITH OUR BARE HANDS!
AND OUR SAFETY GEAR?
LOOKING DOWN INTO THE THROAT OF CERTAIN DEATH!
WHY? YOU ASK WHAT IS WORTH THIS?
...THE MONEY?
BECAUSE IT WAS THERE!
...FOR THE HOBBY?

BILLY THE BAD HAM

Copyright ©2024 Lonnie Webb. All Rights Reserved. LONNIE@LONNIEWEBB.COM



Do you know the answers to these exam questions?

1.Which of the following is a safety hazard of a 12-volt storage battery?
A. Touching both terminals with the hands can cause electrical shock
B. Shorting the terminals can cause burns, fire, or an explosion
C. RF emissions from a nearby transmitter can cause the electrolyte to emit poison gas
D. All these choices are correct

2.What is one way that RF energy can affect human body tissue?
A. It heats body tissue
B. It causes radiation poisoning
C. It causes the blood count to reach a dangerously low level
D. It cools body tissue

3.What is the primary function of an external earth connection or ground rod?
A. Prevent static build up on power lines
B. Lightning charge dissipation
C. Reduce RF current flow between pieces of equipment
D. Protect breaker panel from power surges

4.Why should a 5-ampere fuse never be replaced with a 20-ampere fuse?
A. The larger fuse would be likely to blow because it is rated for higher current
B. The power supply ripple would greatly increase
C. Excessive current could cause a fire
D. All these choices are correct

5.Over what range of frequencies are the FCC human body RF exposure limits most restrictive?
A. 300 kHz - 3 MHz
B. 3 - 30 MHz
C. 30 - 300 MHz
D. 300 - 3000 MHz

Answers: 5.C, 4.C, 3.B, 2.A, 1.B

ACTION PHOTOS

John Smyder W5JWS and Chuck Dockery N7UQ set up for testing.

Tony Fiorda WB8ZWI, John Smyder W5JWS, Doug Priebe AG5HB and Steve HARBIN W5SOT

Club co-founder John Findley W5INF makes a rare appearance for an eyeball QSO.

Danger, Will!

Will, Matt Jamison KI5PGL, Jim Eatman KG5WAW, Mike MacCafferty N5MMC, and John Findley W5INF at Saturday breakfast.

Matt Jamison KI5PGL.

ACTION PHOTOS

Kathy Wingo KI5LEY, Jeff Feldman KI5DDX, Lisa Barnes KG5OBK, and Ev Wingo KI5LEX in a duel of wills against a table.

Jim Szot N5JS, John Smyder W5JWS, Jeff Feldman KI5DDX, Andy Barnes W5KZJ, Lisa Barnes KG5OBK, Mike Crowe W5MJC, Matt Jamison KI5PGL, Linda Smyder K5LCS, Mike MacCafferty N5MMC.

John Smyder W5JWS representing Texas State RACES with CERT at the Sachse Public Safety day with his go box.

Chuck Dockery N7UQ and Tony Fiorda WB8ZWI at Laurel testing. Testing through Sachse is free, although the FCC fee is not.

NET CONTROL SCRIPT

Should you ever desire to get experience running a net, here is an easy to follow script to aid you along. Volunteer at the club meeting—we want you here!

Sachse Amateur Radio Association Weekly Information Net Script

Created by Andy, W5KZJ March 01, 2023

Preamble

Good evening all Radio Amateurs and welcome. This is Your Call, my name is Your Name, and I will be your Net Control Station for this session of Ham Radio in Sachse Weekly Information Net. This net meets every Monday night at 7:00 PM local time, on the W5SRA repeater, frequency 440.350, with an offset of +5, and using a PL tone of 110.9, for the purpose of discussing topics of interest to SARA members and others. (pause) This is a Directed Net. Please do not transmit unless directed to do so by Net Control. If the repeater should go down, everyone should switch to the Sachse emergency simplex frequency 146.400.

Also, if at any time, you have an emergency that is an imminent threat to life or property, break in by saying *"Priority"*, *"Emergency", or "Break Break"* followed by your call sign, and the net will recognize your station and will stand by.

(Pause)

A reminder Net Control Should ID. every 10 minutes.

Check-Ins

As we start check-ins this evening, we will break it down into a couple of categories.

1. Portable, mobile and short time check-ins.
2. General Check-ins

We will stand-by for portable, mobile and short time check-ins. Please, come now with your phonetic call sign, followed by your name.

(Recognize short time, portable and mobile check-ins individually.)
(Go through the list and allow each station to make any comments that they might have.) (ASK for any additional check-ins.)

We will now standby for general check-ins. Please, check in now with your phonetic call sign, followed by your name.

(Go through the list and allow each station to make any comments that they might have. Then ask for more check-ins – this might need to be done 2 or 3 or more times – until there are no more check-ins.

(Make sure you give your own call-sign regularly and allow others to ID appropriately as well.)
(ASK for any additional check-ins.)

Club Announcements:
Our first topic will be announcements from club officers. Any club officer on the net with an announcement, please give us your call sign.

At this time, we will take stations with announcements of interest to the amateur radio community in general. ***(When Ham Operators check-in initially, they may tell you if they have an announcement for later in the Net. Make note of those who have announcements and recognize them first.)***

SARA meets for breakfast every Saturday morning at 7:30AM at Ballard Street Cafe, 112 N. Ballard St in downtown Wylie. People begin showing up around 7 with most showing up by 7:30AM.

TECH CORNER and SWAP NET

Is there anyone who would like to ask a technical question, **or** share information on something they would like to buy or sell**? Remember no haggling over price.** Please come now with your call sign.

Wrap-Up

This is (your name and call). We wish to thank all who participated in the net this evening. This net will meet again next Monday night at 7:00 PM local time on the W5SRA Repeater. Sachse Amateur Radio Association meets the second Thursday at 7:30PM at North Point Church of Christ, 7030 Hwy 78, Sachse , TX. The Sachse Amateur Radio Association Board of Directors meets the fourth Thursday at 7:00PM on Google Meet, a link is in the club calendar.

Late Check-Ins
Before we end this Net, I would like to take late check-ins. If there are any late check-ins, please give your call sign and name slowly and clearly. (*Write down and read back each call sign*).

Wrap-Up:
This concludes the “Ham Radio in Sachse " Weekly Information Net. If you would like more information about the Sachse Amateur Radio Association, please visit our web site at www.sachseradio.org. This is (*name and call sign*) and we now return the W5SRA repeater to its normal use. Hope to hear from you next week.

NEXT MONTH:CHRISTMAS ISSUE

Do you have something to say? Have you learned something? Do you have a question?
Email newslettereditor@sachseradio.org